AMENDMENTS TO THE SPECIFICATION

Please replace the paragraphs identified below of the U.S. Patent Application Publication No. U.S. 2005/0284827 (the "Published Application") with the following:

[0015] According to the main characteristic of the invention, the device is remarkable in that it comprises at least one ~~moving~~ mobile distribution head which unitarily collects and evacuates the parts stored in the cartridge in front of which it positions itself, the said mobile distribution head being associated to a number of distribution tubes whose diameter corresponds to the type of parts to be distributed.

[0016] This characteristic is particularly advantageous in that it uses a single mobile ~~element~~ distribution head for a number of cartridges, which allows the kinematics of the previous art to be ~~economised~~ economized as well as the duration of its implementation during operation.

[0017] Consequently, by creating such a storage and distribution device comprising a mobile distribution ~~module~~ head avoiding the presence of the system for orientating the part which allowed the link to be made between the storage module and the distribution module, the applicants have imagined a new mode of storage and distribution permitting the disadvantages of the prior art to be overcome.

[0018] In spite of the multiplicity of the types of rivets and the variation of the positioning of their storage container, the mobile distribution head of the invention itself permits the parts to be distributed, where in the prior art several carriages were required. The kinematics and means moved are greatly simplified.

[0019] If the carriage described in the international application n° WO 00/07751 may be similar to the moving distribution head of the invention, and if the stacked containers may be similar to the said cartridges described, it appears that the mobile distribution head of the invention is associated to a number of distribution tubes whose diameter corresponds to the type of parts to be distributed, which is to say that the distribution tubes have different internal

diameters and possibly internal profiles depending on the part to be distributed. In fact, to permit a correct movement to be started and therefore correct distribution of the part extracted from the cartridge in which it was stored, the communication tubes between the device and the applicator to which it is connected must be adapted to the diameter and/or the shape of the ~~said~~ part. These distribution tubes are advantageously made from a flexible material that permits them to ensure flexibility and a movement channel for the part regardless of the position of the ~~said~~ mobile distribution head.

[0024] As illustrated in the drawing of FIG. 1, the storage and distribution device for parts such as rivets whose assembly has the reference D is of the type comprising a body 100 equipped with receiving zones 100' to accommodate rivet storage cartridges 200 supplied with a transport fluid and in front of which moves a mobile distribution head 300.

[0025] According to the embodiment illustrated, these ~~transport~~ part storage cartridges 200 are advantageously composed of a parallelepiped equipped with a carrying handle 210 and at least one transport fluid inlet orifice 220 and at least one stored part outlet orifice 230. Each cartridge 200 provides the storage for a single type of rivet inside a storage tube coiled inside the latter. According to the embodiment illustrated, the cartridges 200 have the same external dimensions in order to adapt and be housed in any of the accommodation zones in the body 100 of the device D.

[0026] According to another embodiment, a single orifice 230 is used both for the outlet of the stored parts ~~elements stored as~~ and for the introduction of the transport fluid inside the cartridge 200.

[0027] According to the non-restrictive embodiment illustrated, the ~~accommodation~~ receiving zones 100' in the body 100 for the cartridges 200 are positioned so that the cartridges 200 form a vertical column permitting a same vertical plane to be used to position the axes of the compressed air inlets 220 and in a second vertical plane the axes of the stored element outlet

orifices 230. These ~~accommodation~~ receiving zones 100' each have positioning means and positioning hold means that facilitate the interchangeability of the cartridges.

[0028] Each cartridge 200 is moreover associated to a wait chamber that ~~authorises~~ authorizes the unitary exit of the stored parts ~~it stores~~ and with which the mobile distribution head 300 communicates. These wait chambers are, according to the illustrated embodiment, ~~regrouped~~ grouped in a same vertical beam 110 joined to the body 100 of the device D.

[0029] Furthermore, each cartridge 200 is associated at its transport fluid ~~feed~~ orifice 220 with a transport fluid feed point connected to the body 100. These feed points are, according to the embodiment illustrated, ~~regrouped~~ grouped in a same vertical beam 120 joined to the body 100 of the device D.

[0030] According to another embodiment, the cartridges ~~assembly~~ 200 ~~communicates~~ communicate with a single beam 110 controlling both the output of the stored parts ~~stored~~ and the input of the transport fluid.

[0031] In this ~~way~~ arrangement, each cartridge 200 ~~has, once~~that is installed in the body 100 [[,]] has a chamber controlling the outlet of the ~~elements it stores~~ stored parts as well as a transport fluid feed source guaranteeing the movement of the ~~said elements~~ stored parts.

[0032] The transport fluid is, according to one commonly used embodiment, compressed air which by permanently supplying the storage modules formed by the cartridges, ensures that the elements stored can leave when ~~authorised~~authorized. This transport fluid moves the ~~rivets~~ stored parts inside the cartridges and positions them one by one, progressively as they are freed in the wait chamber provided for this purpose and aligned in the column 110.

[0033] According to one particularly advantageous characteristic of the invention, the device D is equipped with a mobile distribution head 300 which unitarily collects and evacuates the

parts stored in the cartridge [[210]] 200 in front of which it positions itself, this part then being moved by means of the transport fluid to be sent to the applicator that has requested it.

[0034] As illustrated in FIGS. 2 and 3, this mobile distribution head 300 is associated to a logic structure 400 creating a displacement plane of the ~~said~~ mobile distribution head 300 in front of the ~~said~~ cartridges 200. In this way, even though the embodiment illustrated has a mobile distribution head 300 that is mobile in a single axis, the position of the cartridges 200 and ~~its~~ the associated logic structure 400 may consequently have the mobile distribution head 300 move in two axes without this being out of the field of the invention.

[0035] This logic structure 400 is advantageously represented by two vertical beams 410 and 420 and guarantees movement and/or the guiding of the ~~said~~ mobile distribution head 300 in a vertical axis according to the double arrow F. The use of this vertical movement is to enable the mobile distribution head 300 to move from one cartridge 200 to another.

[0036] According to another preferred embodiment, one of the beams (410 or 420) moves the mobile distribution head 300 whilst the other beam provides translation guidance.

[0037] According to one embodiment, the mobile distribution head 300 is moved according to the double arrow F by a step motor which permits the mobile distribution head 300 to be positioned correctly when the latter has to be moved to a precise location in front of the column of cartridges 200.

[0038] According to another embodiment, the mobile distribution head 300 is moved according to the double arrow F by a linear motor. According to other embodiments, the said movement is carried out by a pneumatic actuator or a brushless type motor.

[0039] In compliance with the invention, the said mobile distribution head 300 is associated to a number of distribution tubes 310, whose diameters correspond to the type of the parts to be distributed. In fact, to ~~authorise~~ authorize correct movement and thus correct distribution of the

part extracted from the cartridge 200 ~~in which it is stored~~ , the communication tubes 310 between the device D and the applicator to which it is connected, must be suited to the diameter of the ~~said~~ stored part. These distribution tubes 310 of the mobile distribution head 300 are advantageously made from a flexible material that permits them to ensure flexibility and a movement channel for the stored part regardless of the position of the ~~said~~ mobile distribution head 300. In this way, when the device D is associated to an applicator, depending on the diameter of the part required by the applicator, the mobile distribution head 300 places the end of a single tube 310 of a suitable diameter in front of the outlet orifice 230 of the cartridge 200 stocking the required parts ~~required~~. Consequently, to guarantee this function, the tubes 310 associated to the ~~said~~ mobile distribution head 300 have different diameters and/or profiles, and the mobile distribution head 300 ensures the movement of one of their ends.

[0040] For reasons of clarity, only the end connected to the mobile distribution head 300 of ~~these~~ the distribution tubes 310 has been illustrated in FIGS. 1 and 3. The second end of the distribution tubes 310 may be indifferently connected to [[a]] the same applicator or connected to different applicators.

[0041] These distribution tubes 310 are positioned in parallel to the axes of the outlet orifices 230 of the ~~said~~ cartridges 200 storing the parts to be distributed. ~~and via the~~ Via movement of the ~~said~~ mobile distribution head 300, the distribution tubes 310 are positioned co-axially to the ~~said~~ axes of the outlet orifices 230. More precisely, the end of a distribution tube 310 is positioned coaxially to the axes of the outlet orifices 230.

[0042] As illustrated in FIGS. 1 and 3, the ~~said~~ distribution tubes 310 move from a position ~~where they are moved~~ in front of the cartridges 200 by means of the mobile head 300 to a position where one of their ends communicates with the cartridge 200 containing the parts to be distributed and vice versa according to the double arrow G (see FIG. 3).

[0043] This movement is advantageously carried out by a moving means of jack type fitting to each tube 310 connected to the said mobile head 300. In this way, when a ~~type of element~~ particular part has to be distributed, the mobile distribution head 300 is moved vertically along the beams 410 and 420 according to the double arrow F to position a suitable distribution tube 310 coaxially to the outlet orifice 230 of the storage cartridge 200, which contains the particular required part ~~of the element required~~. Once positioned coaxially, the end of the tube 310 is moved horizontally by means of its actuator according to the double arrow G so that it is introduced in the corresponding direction.

[0044] In this way, the mobile distribution head 300 is fitted out so that it can accommodate the horizontal movement means for each distribution tube 310 for which it moves the end vertically.

[0045] These distribution tube ends 310 are advantageously equipped with a self-~~centring~~ centering taper so that it is easier to insert them into the bank.

[0046] Even though illustrated the logic structure 400 ~~illustrated only~~ proposes only one movement according to the two axes ~~symbolised~~ symbolized by the two double arrows F and G, it may be perfectly envisaged to create a device D that adopts a logic structure 400 offering three movement axes, without this being excluded from the field of the invention increasing by this means the displacement plane. Of course, this additional movement is only justified in the case of the storage module being composed of not just a single column of cartridges 200 but a number of columns, thus offering a wide choice of parts to be distributed. In this case, the body 100 of the device [[200]] D is preformed to accommodate and form the said columns.

[0047] The number of cartridges 200 as well as the number of distribution tubes 310 complicate the orientation of the mobile distribution head 300. Therefore, the ~~applicant has advantageously imagined that the~~ cartridges 200 can be each equipped with ~~a specific~~ an identification label 240 with means of identification cooperating with one or more ~~reading heads~~ identification label readers 320 associated to the ~~said~~ mobile distribution head 300 so

that the mobile distribution head 300 can position the end of the correct distribution tube 310 coaxially to the outlet orifice 230 of the correct cartridge 200. Consequently, the cartridges 200 may be stored in any order in the device D, as the ~~reading head~~ identification label readers 320 associated to the mobile distribution head 300 permits the mobile distribution head 300 to move into the correct position and use the correct distribution tube 310.

[0048] Similarly, by means of the said identification labels 240, a CPU manages the stocks and the changing of the cartridges 200. In fact, each part distributed may thus be counted which means that the renewal of the cartridges 200 can be managed in advance.

[0049] Furthermore, the device D of the invention permits the positions used for the cartridges 200 to be non-dedicated to a single type of ~~element~~ part to be distributed, which allows avoiding changing the ~~programme~~ program each time that the position of a particular type of part is changed. The identification process thus allows the improvement not only of the flexibility of the distribution device D but also the traceability of the components distributed.